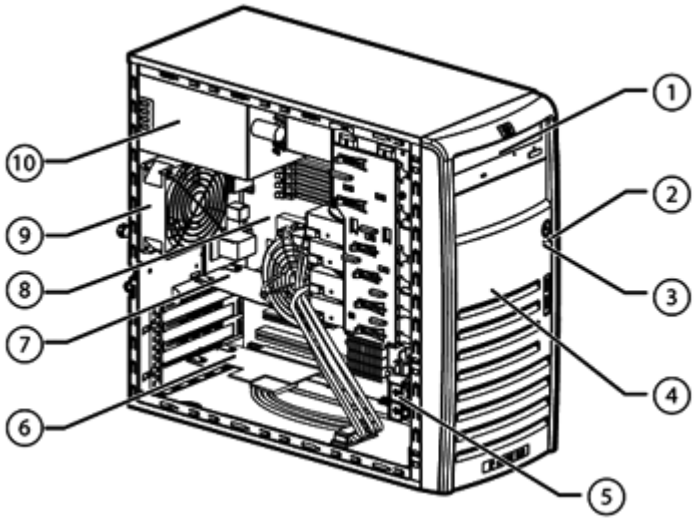
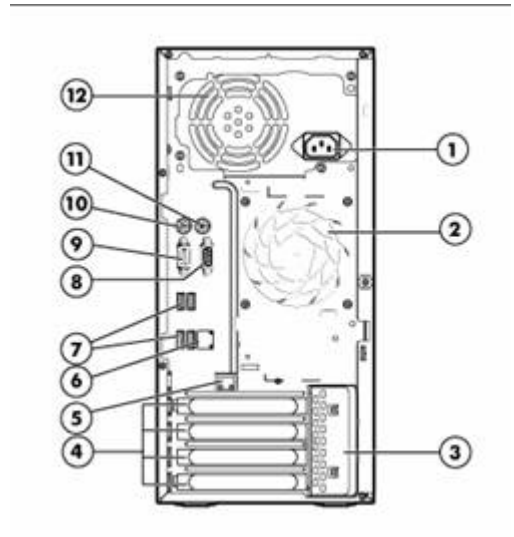
Overview





Front View:

1. DVD-ROM Drive
2. Power LED
3. Drive Activity LED
4. Front Bezel
5. Full Length Card Retainer
6. HDD Controller Card (Optional)
7. HP ProLiant100 G5 Lights-Out 100c Remote Management Card port(Optional)
8. System Board
9. Rear System Fan
10. 365W Power Supply

Rear View:

1. Power Supply Outlet
2. Rear System Fan
3. PCI Slot Cover Lock
4. PCI Slot Covers
5. HP ProLiant100 G5 Lights-Out 100c Remote Management Card port(Optional)
6. LAN Port (RJ-45)
7. Rear USB 2.0 Ports
8. Serial Port
9. VGA Port
10. PS/2 Keyboard Port
11. PS/2 Mouse Port
12. PSU Fan

Overview

At A Glance

- Processor:
 - Dual-Core AMD Opteron™ 1200 series processors
 - Dual-Core AMD Athlon™ 4450B processors
 - Single-Core AMD Athlon™ 1640B processors
 - Single-Core AMD Sempron™ LE1250 processors
- Memory:
 - 512 MB Standard
 - Supports up to 8 GB Maximum of PC2-6400 DDR2 unbuffered ECC Memory
- Storage Controller:
 - SATA Models: 4 Port SATA controller with Embedded RAID on Motherboard (RAID 0,1,5)
- Internal Drive Support:
 - 4 HDD Support:
 - 2.0TB SATA max storage (4 x 500GB CTO HDD)
 - 1.2TB SAS max storage (4 x 300GB CTO HDD)
- Network Controller:
 - Embedded NC105i PCI Express Gigabit Server Adapter
- Expansion Slots:
 - Slot 1: PCI 32-bit/33MHz PCI at 3.3V slot
 - Slot 2: PCI-Express x1 connector with x1 link
 - Slot 3: PCI-Express x8 connector with x8 link
 - Slot 4: PCI-Express x16 connector with x16 link
- USB Ports:
 - 8 Eight total USB ports (2 front, 4 rear and 2 internal(one for tape, one for standard USB devices))
 - 2 Front
 - 4 Rear
 - 2 Internal (one for tape, one for standard USB devices)
- Management:
 - Standard Lights Out 100 IPMI 2.0 reporting
 - Optional HP ProLiant 100 G5 Lights Out 100c Remote Management Card
 - Standard HP ProLiant ML115 G5 Easy Set-Up CD
- Form Factor:
 - Micro ATX Tower (4U)
- Warranty:
 - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for one year from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Certain restrictions and exclusions apply. SATA hard drives have a one year warranty. (1-1-1 warranty (3-1-1 warranty offered in AP, excluding Japan only).
 - NOTE: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Standard Features

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: http://h71028.www7.hp.com/ERC/downloads/4AA1-5498ENW/EEW.pdf

Processor One of the following depending on Model	**Dual-Core Processors** Dual-Core AMD Opteron Processor Model 1222SE (3.0Hz)* Dual-Core AMD Opteron™ Processor Model 1218 (2.6GHz)* Dual-Core AMD Opteron Processor Model 1214 (2.2 GHz)* Dual-Core AMD Opteron Processor Model 1210 (1.8GHz)* Dual Core AMD Athlon™ Processor Model 4450B (2.3 GHz) **Single-Core Processors** Single-Core AMD Athlon™ Processor Model 1640B (2.7GHz)* Single-Core AMD Sempron™ Processor Model LE1250 (2.2GHz)* * Offered through Configure-To-Order only. See Factory Integrated Models section for more details	
Cache Memory One of the following depending on Model	2MB Level 2 cache (Opteron models) 1MB Level 2 cache (Athlon 4450B models) 512KB Level 2 cache (Athlon 1640B and Sempron models)	
Chipset	nVidia NFP3400	
Memory Protection	ECC	
Memory	Type	PC2-6400 unbuffered DDR2 SDRAM (800MHz)
	Standard	512 MB
	Maximum	8 GB
Network Controller	Embedded NC105i PCI -Express Gigabit Server Adapter	

Standard Features

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number*	Device Number	Form Factor	NOTES
1	PCI (133MHz/ 3.3V)	32-bit	N/A	1	8	Full height slot	133MHz/3.3V
2	PCI-e	X1	X1	4	0	Full height slot	
3	PCI-e	X8	X8	2	0	Full length, full height slot	
4	PCI-e	X16	X16	12	0	Full length, full height slot	

*Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number.
** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).
*** Indicates the number of physical electrical lanes running to a PCI-e connector.
NOTE: PCI-X Interface (PCI 32bit/33MHz compatible)

Storage Controller
One of the following depending on Model

HP 8 Internal Port SAS HBA with RAID (0,1)
Integrated 4 port SATA controller with embedded RAID (0,1,5)*
*Embedded RAID setup instructions are located in the User Guide. CTO RAID set-up is not available.
HP ProLiant ML100 Series Server User Guide:
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00260539/c00260539.pdf

Storage

Optical Drive	SATA DVD-ROM Drive
Hard Drives	160GB SATA 7200 rpm Drive

Maximum Internal Storage

Type		
SAS (Not-hot plug)	1.2TB	(4x300GB*)
SATA (Non-hot plug)	2.0TB	(4 x 500GB*)

*Offered through Configure-To-Order only. See Factory Integrated Models section for more details

Standard Features

Interfaces	Parallel	0
	Serial	1
	Pointing Device (Mouse, PS2)	1
	Graphics	1
	Keyboard (PS2)	1
	USB	8 total (4 rear, 2 front panel, 2 internal (one for USB Tape connectivity)) NOTE: Internal USB ports are optimal for the attachment of HP USB DAT Tape Drives NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html
	Network RJ-45 (Ethernet)	1
	Management	HP ProLiant G5 Lights-Out 100c Remote Management port (Optional)
Graphics	32MB shared supporting 1600x1200x16M resolution	
Form Factor	Micro ATX Tower (4U)	
Remote Management	Lights-Out 100c	Lights Out LO100c is a Remote Management Card (RMC) for ProLiant 100 series servers that do not have embedded LO100i. The LO100c has all the features of the LO100i Advanced license and allows customers, or their service providers, to remotely manage ProLiant servers over a LAN or the Internet from anywhere, anytime regardless whether the server is located in the same building, across town, or around the globe. With LO100c, users can acquire complete remote control with Virtual KVM (graphical hardware-based, remote console). Users can also access the server's serial console, control system power, update system firmware and software, as well as monitor system environmental conditions. The LO100c remote management card can be accessed from a web browser or command line interface. This virtual "at-the-server" functionality means administrators stay in control of remote HP ProLiant 100 series servers. The HP Lights-Out100c consists of a management processor and firmware that provides cost-effective, entry-level lights-out functionality, basic system board management functions, and diagnostics. NOTE: For more information, please refer to the QuickSpecs for the LO100c found at: http://h18004.www1.hp.com/products/servers/management/remotemgmt/lightsout100/index.html

Standard Features

Core Infrastructure Management	HP ProLiant ML115 G5 Easy Set-up CD	The HP ProLiant Easy Set-up CDs optimize single-server setup, providing a simple way to deploy reliable and consistent server configurations. The HP ProLiant 100 Series Easy Set-up CD ship standard with the ML115 G5. It offers essential single-server deployment tools for HP ProLiant 100 series servers that simplify HP entry server setup, providing a repeatable way to deploy reliable and consistent single-server configurations. The HP ProLiant Easy Set-up CDs assist with the OS installation process by preparing the system for installing "off-the-shelf" versions of Windows operating system software and automatically integrating optimized HP ProLiant server software drivers and utilities. Users enjoy the following benefits: • An easy-to-use, intuitive graphical interface that guides you through preparing your system for the OS installation process. • Integration of key server software drivers with assisted installation. • Dependency and validity checks to ensure that all supported ProLiant software can be installed. For additional information please visit the HP ProLiant Easy Set-up CD Web site at www.hp.com/servers/easysetup. For the latest information about other related software; please visit the HP Insight Control Management Software Portfolio at: http://h18004.www1.hp.com/products/servers/management/ and the HP ProLiant Easy Set-up CD Web site at www.hp.com/servers/easysetup
	Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
	ROMPaq software and latest drivers	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options, available through download from the software and drivers website pages at http://www.hp.com/go/support.
Industry Standard Compliance	ACPI V2.0 Compliant PCI 2.3 Compliant PXE Support WOL Support IPMI 2.0 compliance	
Manageability	Standard Lights Out 100 1PMI 2.0 reporting HP ProLiant G5 Lights-Out 100c Remote Management Card (Optional) HP ProLiant ML115 G5 Easy Set-Up CD	
Security	Power-on password Setup password	

Standard Features

Server Power Cords	6' country specific, lowline NEMA power cord.
Power Supply	365 Watts
System Fans	1 – non-redundant system fan shipped standard 1 – non-redundant CPU heatsink fan shipped standard
OS Support	Microsoft Windows Server 2003: Standard & Enterprise Edition (32 and 64 bit) Microsoft Windows Small Business Server 2003 Microsoft Windows 2003 Server, Web Edition Microsoft Windows 2008 RedHat Enterprise Linux SUSE Linux Enterprise Server NOTE: For more complete and up-to-date information of all supported OSes for ProLiants, certification information and how to buy server operating systems from HP please visit the OS product site at: http://h18004.www1.hp.com/products/servers/software/OEM.html. NOTE: For an up-to-date listing of the latest software and drivers available for your server, please select your server: http://h20000.www2.hp.com/bizsupport/TechSupport/Product.jsp?lang=en&cc=us&taskId=135&prodTypeId=15351&prodCatId=241435.
Factory Express Portfolio for Servers and Storage	HP Factory Express offers configuration, customization, integration and deployment services for HP servers and/or storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers, as well as, the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches. For more information on Factory Express services for your specific server model please contact your sales representative or go to http://www.hp.com/go/factory-express.
HP Enterprise Configurator	The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

Standard Features

Service and Support

HP Care Pack Services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack services include coverage for the HP branded hardware options qualified for the server that are purchased at the same time or afterward and internal to the enclosure. It also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - Simplify ProLiant solution implementation, maintenance and management.

- Support Service -3 Year, 9x5 Next Business Day coverage, excluding HP holidays only
- Deployment Service - Hardware Installation only

Enhanced Service - Optimize service level to increase IT performance and availability

- Support Service - 3 Year 13x5 Same Business Day, 4-Hour response coverage
- Deployment Service - Installation and Start-up only

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays.
For a complete listing of service offerings and information visit:
http://www.hp.com/services/proliantservices
http://www.hp.com/go/proliant/carepack

Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

SATA Models

ML115 G5 Athlon 4450B NHP-SATA (1P) 457772-xx1	Processor(s)	(1) Dual-Core AMD Athlon 4450B (2.3GHz, Cache)
	Cache Memory	512KB Level 2 cache
	Memory	512 MB PC2-6400 0 ECC (DDR2-800 MHz) (1 x 512 MB)
	Storage Controller	HP Embedded 4 Port SATA Controller with embedded RAID (0,1,5)
	Hard Drive	160GB SATA HDD
	Internal Storage	Maximum 2TB (4 x 500GB) SATA
	Optical Drive	16x SATA DVD-ROM
	Form Factor	Micro ATX Tower (4U)

Country Code Key	xx=01	Australia
	xx=03	UK
	xx=04	Germany
	xx=05	France
	xx=20	Brazil
	xx=37	AP
	xx=42	Euro
	xx=AA	PRC
	xx=29	Japan
	xx=AB	Taiwan
	xx=AD	Korea

Configuration Information-Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.
NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.
NOTE: FIO indicates that this option is a Factory Installable Option.

Step 1: Base Configuration

Models	HP ProLiant ML115 G5 NHP CTO Chassis (North America)	457767-B21
	Factory Integrated Models ship with:	
	Embedded NC105i PCI Express Gigabit Server Adapter	
	Keyboard and Mouse	
	365 Watts, PFC (Power Factor Correcting)	
	Micro ATXT Tower (4U)	
	NOTE: HP SATA Drive Models are limited to <2TB support.	
	NOTE: On SATA models with embedded RAID, setup instructions are located in the User Guide. CTO RAID is set-up is not available. HP ProLiant ML100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00260539/c00260539.pdf	

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

Processors	Dual-Core Processor	
	Dual-Core AMD Athlon™ Processor Model 4450B (2.3 GHz) Option Kit, FIO	480298-L21
	Dual-Core AMD Opteron Processor Model 1222 (3.0GHz) Option Kit, FIO	480293-L21
	Dual-Core AMD Opteron Processor Model 1218 (2.6 GHz) Option Kit, FIO	480292-L21
	Dual-Core AMD Opteron Processor Model 1214 (2.2 GHz) Option Kit, FIO	480291-L21
	Dual-Core AMD Opteron Processor Model 1210 (1.8 GHz) Option Kit, FIO	480290-L21
	Single-Core Processors	
	Single-Core AMD Athlon™ Processor Model 1640B (2.7 GHz) Option Kit, FIO	480297-L21
	Single-Core AMD Sempron™ Processor Model LE1250 (2.2 GHz) Option Kit, FIO	480296-L21

Memory	2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)	450260-B21
	1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)	450259-B21
	512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)	450258-B21

Configuration Information-Factory Integrated Models

Hard Drives	SATA - Non-Hot Plug	
	HP 500GB 1.5G SATA 7.2K NHP 3.5" HDD, FIO*	404469-B21
	HP 250GB 1.5G SATA 7.2K NHP 3.5" HDD	411276-B21
	HP 160GB 1.5G SATA 7.2K NHP 3.5" HDD	411275-B21
	NOTE: When purchasing systems with the 500GB Non-Hot Plug SATA drives, please reference the Configuration Information Section of this QuickSpecs to order via Configuration to Order.	
	NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature: http://h18000.www1.hp.com/products/quickspecs/11940_div/11940_div.html (Worldwide)	
	SAS Non-Hot Plug	
	HP 72GB SAS 3.5" 15K NHP	432095-B21
	HP 146GB SAS 3.5" 15K NHP	432093-B21
	HP 300GB SAS 3.5" 15K NHP	431950-B21
	NOTE: The purchase of SAS hard drives requires the purchase of part number 430479-B21, the HP Internal SAS/SATA 4-Port Cable.	
Optical Drives	HP Half-Height SATA DVD ROM Kit	447326-B21
	HP Half-Height SATA DVD-RW Optical Kit	447328-B21

Step 3: Choose Additional Factory Integratable Options

NOTE: For additional options, please refer to the "Options" section below.
NOTE: Some options may not be factory integratable. Please contact your local sales representative for additional information.

Communications	Agere 2006 PCI Hi-Speed 56K Modem, FIO	440519-B21
Operating Systems	Pre-install Microsoft Windows 2003 SBS Standard Edition	
	MS W2003 SBS R2 Std 1XX FIO Eng SW	432564-xx1
	MS W2003 SBS R2 Prm 1XX FIO Eng SW	432566-xx1

Configuration Information-Factory Integrated Models

Country Code Key	xx=01	Australia
	xx=03	UK
	xx=04	Germany
	xx=05	France
	xx=06	Italy
	xx=07	Spanish
	xx=20	Brazil
	xx=21	Hungarian
	xx=22	Czech
	xx=24	Polish
	xx=33	Dutch
	xx=37	AP
	xx=42	Euro
	xx=AA	PRC
	xx=29	Japan
	xx=AB	Taiwan
	xx=AD	Korea

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Options" section below.

NOTE: Some options may not be factory integratable. Please contact your local sales representative for additional information

Options

Remote Management	HP ProLiant Lights-Out 100c Remote Management Card	
	HP ProLiant 100 G5 Lights-Out 100c Remote Management Card	445513-B21
	NOTE: Supports HP ProLiant DL180 G5, ML110 G5, ML115 G5 and ML150 G5 servers.	
	NOTE: For additional information on Lights-Out 100c Remote Management Card, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12468_div/12468_div.html	
Memory	2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)	450206-B21
	1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)	450259-B21
	512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)	450258-B21
Optical Drives	HP Half-Height SATA DVD ROM Kit	447326-B21
	HP Half-Height SATA DVD-RW Optical Kit	447328-B21
Hard Drives	SATA - Non-Hot Plug	
	HP 500GB 1.5G SATA 7.2K NHP 3.5" HDD, FIO*	404469-B21
	HP 250GB 1.5G SATA 7.2K NHP 3.5" HDD	411276-B21
	HP 160GB 1.5G SATA 7.2K NHP 3.5” HDD	411275-B21
	NOTE: When purchasing systems with the 500GB Non-Hot Plug SATA drives, please reference the Configuration Information Section of this QuickSpecs to order via Configuration to Order.	
	NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature: http://h18000.www1.hp.com/products/quickspecs/11940_div/11940_div.html (Worldwide)	
	SAS Non-Hot Plug	
	HP 72GB SAS 3.5" 15K NHP	432095-B21
	HP 146GB SAS 3.5" 15K NHP	432093-B21
	HP 300GB SAS 3.5" 15K NHP	431950-B21
	NOTE: The purchase of SAS hard drives requires the purchase of part number 430479-B21, the HP Internal SAS/SATA 4-Port Cable.	

Options

Storage Controllers	HP SC44Ge Host Bus Adapter	416096-B21
	HP SC11Xe Host Bus Adapter	412911-B21
	HP 8 Internal Port 64/133 PCI-X SAS HBA with RAID	347786-B21
	HP SC40Ge Host Bus Adapter, FIO NOTE: Factory Integrated Only.	449176-B21
	HP Smart Array E200/128 BBWC Controller NOTE: Supports the Smart Array E200 Controller, Smart Array 641 Controller and Smart Array 642 Controller.	411508-B21
	HP SAS/SATA 4-Port Cable NOTE: The purchase of a SAS Storage Controller requires the purchase of HP SAS/SATA 4-Port Cable (P/N 430479-B21) NOTE: On SATA models with embedded RAID, setup instructions are located in the User Guide. CTO RAID set-up is not available. HP ProLiant ML100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00260539/c00260539.pdf	430479-B21
Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394391-B21
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	Agere 2006 PCI Hi-Speed 56K Modem	EK694AA
Tape Backup Drives	NOTE: Installation of SCSI internal tape drives in a ML115 G5 model requires SCSI controller kit (PN: 412911-B21). NOTE: For complete listing of tape drive offerings see: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html	
	USB Tape Drives	
	HP StorageWorks DAT 40 USB Internal Tape Drive (Carbonite)	DW022A
	HP StorageWorks DAT 72 USB Internal Tape Drive (Carbonite)	DW026A
	HP StorageWorks DAT 160 USB Internal Tape Drive	Q1580A
	DAT SAS Tape Drives	
	HP StorageWorks DAT 160 SAS Internal Tape Drive	Q1587A
	DAT SCSI Tape Drives	
	HP StorageWorks DAT 40 SCSI Internal Tape Drive (Carbon)	C5686C
	HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon)	Q1522B
	HP StorageWorks DAT 160 SCSI Internal Tape Drive (Carbon)	Q1573A
	LTO Ultrium SAS Tape Drives	
	HP Storage Works LTO-2 Ultrium 448 SAS Internal Tape Drive	DW085A
	HP Storage Works LTO-3 Ultrium 920 SAS Internal Tape Drive	EH847A

Options

HP D2D Backup System	HP StorageWorks D2D110 Backup System NOTE: 1TB of Disk Storage	EH880A
	HP StorageWorks D2D110 Backup System with Data Protector Express Software Kit NOTE: 1TB of Disk Storage	EH923A
	HP StorageWorks D2D120 Backup System NOTE: 2TB of Disk Storage	EH884A
	HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit NOTE: 2TB of Disk Storage	EH924A
	HP StorageWorks D2D130 Backup System NOTE: 3TB of Disk Storage.	EH950A
	HP StorageWorks D2D130 Backup System with Data Protector Express Software Kit NOTE: 3TB of Disk Storage.	EH951A
	HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive NOTE: 3TB of Disk Storage.	EH952A
	NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12651_div/12651_div.html (Worldwide)	
Installation of Server into Racks	Monitor/Utility Shelf	253449-B21
	HP ProLiant Rack Enabling Kit	417705-B21
Remote Management	HP ProLiant 100 G5 Lights-Out 100c Remote Management Card NOTE: Supports HP ProLiant DL180 G5, ML110 G5, ML115 G5 and ML150 G5 servers, NOTE: For additional information on Lights-Out 100c Remote Management Card, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12468_div/12468_div.html	445513-B21
UPS	HP T1000 UPS, JPN/TWN	AF404A
	HP T1000 UPS, NA	AF403A
	HP T1000 UPS, INTL	AF405A
	HP T750 UPS, Low Voltage (NA/JPN)	378439-D71
	HP T750 UPS, High Voltage (INTL)	378439-B31
	HP 1.83m 10A C13 CH Power Cord	AF565A
	HP 1.83m 10A C13 DK Power Cord	AF566A
	HP 1.83m 10A C13 EU Power Cord	AF568A
	HP 1.83m 10A C13 IL Power Cord	AF564A
	HP 1.83m 10A C13 UK Power Cord	AF570A
	HP 1.83m C13 IT/CL Power Cord	AF571A
	HP 2m C13 JPN Power Cord	AF572A
	HP Power Cord 2.5m 10A C13-Argentina	AF558A
	HP Power Cord 1.83m 10A C13-Brazil	AF559A

Options

	HP Power Cord 1.83m 10A C13-China	AF557A
	HP Power Cord 1.83m 10A C13-UL DOM	AF556A
USB Options	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	HP 256MB USB 2.0 Floppy Drive Key	442084-B21
	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	USB 2.0 4-port HUB	DG954A
HP KVM Switch Options	HP 1x4 Console Switch	AF611A
	HP PS2 Server Console Cable, 6 foot, 2-Pack	AF612A
	HP USB Server Console Cable, 6 foot, 2-Pack NOTE: Required for supporting USB peripherals.	AF613A

NOTE: For additional information regarding KVM Switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.

Service and Support Offerings (HP Care Pack Services)	**Hardware Services 4-Hour On-site Service**	
	13-Hour x 5-Day Coverage, 3 Years	U4434E
	24-Hour x 7-Day Coverage, 3 Years	U4435E
	Hardware Services Next Business Day On-Site Service	
	9-Hour x 5-Day Coverage, 3 Years	U4433E
	Hardware Services 6 Hour Call-to-Repair	
	24-Hour x 7-Day Coverage, 3 Years, 6 Hour Call-to-Repair	U4436E
	Hardware Installation Service	
	HP Install ProLiant ML115 G5 Service	U4444E
	NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack.	

Memory

HP ProLiant ML115 G5 Models

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

Standard Memory

512 MB of PC2-6400 DDR2 SDRAM running at 512 MB with ECC capabilities Memory installed (1 x 512 MB SDRAM DIMM).

Standard Memory Plus Optional Memory

Up to 5120 MB memory is available with the optional installation of PC2-6400 un-buffered ECC DDR2 SDRAM DIMM Memory kits.

Standard Memory Replaced with Optional Memory

Up to 8192 MB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2-6400 un-buffered ECC DDR2 SDRAM DIMM Memory kits.

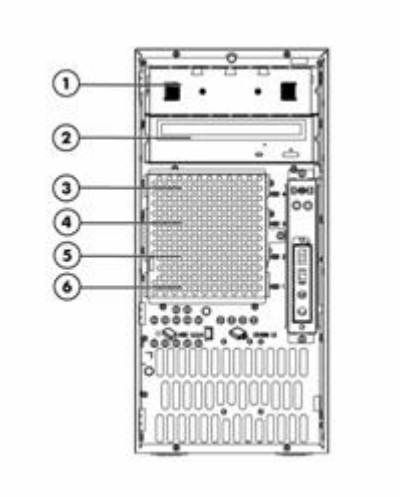
NOTE: The below chart does not represent all possible memory configurations.

NOTE: In memory configurations requiring 2 DIMM and 4 DIMM configurations, the memory must be paired for optimal performance. This means that DIMMs in slot 1 and 3 have to be identical, in slot 2 and 4 have to be identical. (For example, the Optional memory configuration shown below)

Memory		Slot			
		4B	3B	2A	1A
Standard	512 MB	Empty	Empty	Empty	512 MB
Optional	5120 MB	2048 MB	2048 MB	512 MB	512 MB
Maximum	8192 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)	450260-B21
1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)	450259-B21
512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)	450258-B21



1	Removable Media Bays (1.6" each)
2	DVD-ROM
3, 4, 5, 6	Four (4) Non-Hot Plug Drive Bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
DVD Drive	2	1 or 2	Integrated SATA
DVD-RW Drive	2	1 or 2	Integrated SATA

Hard Drives (SATA Models only)

SATA 1.5Gb – Non-Hot Plug

	Quantity Supported	Quantity Supported	Controller
3.5-inch 500GB 7.2K SATA 250GB 7.2K SATA 160GB 7.2K, SATA	Up to 4	3,4,5,6	4 Port SATA controller with Embedded RAID on Motherboard (0,1,5)

Hard Drives (SAS Models only)

SAS – Non-Hot Plug

	Quantity Supported	Position Supported	Controller
3.5-inch 300GB 15K SAS 145GB 15K SAS 72GB 15K, SAS	Up to 4	3,4,5,6	HP 8 Internal Port SAS HBA with RAID (0,1)

Storage

Maximum Storage Capacity – SATA/SAS Models

Internal	SATA	160GB (1x160GB (BTO) 2TB (4 x 500GB (CTO)
	SAS	1.2TB (4x300GB)
Total	SATA	1TB (4x250GB (BTO) 2TB (4 x 500GB (CTO)
	SAS	1.2TB (4x300GB)

Tape Drives and D2D Backup

NOTE: A SCSI controller needs to be purchased to operate internal SCSI devices in the SATA Models.
NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: http://h18000.www1.hp.com/products/quickspecs/division/10233.html (Worldwide)

	Position Supported	Controller	Controller/HBA Option Kit Part Number
Internal USB Tape Drives DAT 40 USB DAT 72 USB DAT 160 USB	2	USB 2.0 port	N/A
External USB Tape Drives DAT 40 USB DAT 72 USB DAT 160 USB	External	USB 2.0 port	N/A
Internal SAS Tape Drives DAT 160 SAS LTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS	2	HP SC44Ge Host Bus Adapter	416096-B21
External SAS Tape Drives DAT 160 SASLTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS	External	HP SC44Ge Host Bus Adapter	416096-B21
Internal SCSI Tape Drives DAT40 DAT 72 DAT 160	2	HP SC11Xe Host Bus Adapter	412911-B21
External SCSI Tape Drives DAT40 DAT 72 DAT 160	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks D2D BackUp System D2D110 D2D120 D2D130	External	Embedded Network Controller	N/A

Power Specifications

Part Number	416121-001
Spare Kit	419029-001
Operational Input Voltage Range (Vrms)	100 to 127 and 200 to 240 V auto ranging
Frequency Range (Nominal) (Hz)	50 to 60 Hz

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	N/A	365	N/A	N/A	365	N/A
Nominal Input Current (A rms)	N/A	6	N/A	N/A	3	N/A
Max Rated Input Wattage Rating (Watts)	N/A	553	N/A	N/A	517	N/A
Max. Rated VA (Volt-Amp)	N/A	N/A	N/A	N/A	N/A	N/A
Efficiency (%)	N/A	>65%	N/A	N/A	>65%	N/A
Power Factor	N/A	N/A	N/A	N/A	N/A	N/A
Leakage Current (mA)	0.5mA (at 60HZ)	N/A	N/A	N/A	N/A	N/A
Maximum Inrush Current (A peak)	N/A	No component was damaged and input fuse shall not blow	N/A	N/A	No component was damaged and input fuse shall not blow	N/A
Maximum Inrush Current duration (mS)	N/A	N/A	N/A	N/A	N/A	N/A

	Power**
HP ProLiant ML115 G5 Fully Configured	(see**)
Fully Loaded System output Wattage (W)	365W
Fully Loaded System Input Current (A rms)	6A @ 115V, 3A @ 230V
Fully Loaded System Thermal (BTU- Hr)	1885 BTU
Fully Loaded System VA (Volt-Amp)	N/A
System Leakage with all power supplies loaded (mA)	N/A
System Inrush Current with all power supplies loaded (A)	N/A
Power cord requirements	Nema 5-15P to IEC320-C13
	IEC320-C13 to IEC320-C14
	**Power shown is for a fully configured system consisting of (1) CPU, (4) double-sided DIMMs, (4) HDDs, (1) DVD-ROM, (4) PCI cards, and (1) power supply.

Power Cords (13 Cord Sets)	Power Cord Part Number
Country	
APD	100614-009, 100613-008, 139867-004, 187487-004 (India)
Brazil	285052-001
Australia	100661-001
Euro	100614-009
France	100614-009
Germany	100614-009
Japan	139867-004
PRC	286496-001
UK	100613-008
US, Taiwan	121565-001

System Unit	**Dimensions** (HxWxD) (with feet)	14.5 x 6.9 x 16.8 in (36.7x 17.5 x 42.6 cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	31.35 lb (14.22 kg)
		Minimum (one hard drive, power supply, and processor installed)	25.75 lb (11.68 kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 –- 132 VAC, 180 – 264 VAC
		Rated Input Current	6 A (at 110 VAC), 3 A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	365 W (at 100 VAC), 365 W (at 200 VAC)
	BTU Rating	Maximum	1885 BTU/hr (at 100 VAC), U/hr (at 200 VAC)
	Power Specifications	To review typical system power ratings use the Power Calculator which is available via the online tool located at URL: http://h30099.www3.hp.com/configurator/calc/Power%20Calculator%20Catalog.xls	
	Power Supply Output (per power supply)	Rated Steady-State Power	365 W (at 100 VAC), 365 W (at 200 VAC)
		Maximum Peak Power	385 W (at 100 VAC), 385 W (at 200 VAC
	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
		Non-operating	10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C
	Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

	Acoustic Noise (Fully Loaded)	Idle		
		L WAd	4.74 BELS	
		L pAm	30.0 dBA	
		Operating		
		L WAd	4.99 BELS	
		L pAm	32.5 dBA	
HP 160GB 1.5G SATA 7.2K NHP 3.5" HDD 458947-B21	**160GB 7,200 rpm**	**Capacity**	160,041 MB	
		Height	1.0 in. (26.1 mm)	
		Width	4.0 in. (101.6 mm)	
		Interface	Serial ATA	
		Transfer rate synchronous (maximum)	1.5 Gb/s	
		Seek time (typical reads, including settling)	Single track	0.9 ms
			Average	9.0 ms
			Full-stroke	17.8 ms
			Rotational speed	7,200 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	312,581,808
		Operating Temperature	41° to 131° F (5° to 55° C)	
16X Max SATA DVD-ROM Drive 447326-B21	**Disk**	Applicable Disk	CD-ROM, CD-XA, CD-DA (Mode 1, Mode 2, Form 1 and 2)	
			Photo CD (Single and Multi-session)	
			CD-R. CD-RW	
			Mixed Mode (Audio and Data combined)	
			DVD-ROM DVD-R/RW, DVD+R/RW	
			CD-R	
		Capacity	540MB (Mode 1, 12 cm)	
			650MB (Mode 2, 12 cm)	
			4.7 GB, 8.5 GB DVD	
	Block Size	Mode 1	2,048 bytes (CD & DVD) 1024 bytes	
		Mode 2	2,340 bytes, 2,336 bytes, 1024 bytes	
		CD-DA	2,352 bytes	
		CD-XA	2,328 bytes	
	Interface	SATA		
	Access Times (typical)	Random	<100 ms	
		Full-Stroke	<150 ms	

Technical Specifications

	Data Transfer Rate	Sustained	3000 to 7200 KB/s (20X to 48X)
		Burst	150 KBps to 7,200 KBps
		Bus Rate	1.5Gbps
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 7 seconds	
	Stop Time	< 4 seconds	
	Laser Parameters	Type	Semiconductor Laser GaA1As
		Wave Length	780 ± 25 nm
	Operating Conditions	Temperature	41° to 122° F (5° to 50° C)
		Humidity	10% to 90%
	Dimensions	(HxWxD, maximum)	1.63 x 5.75 x 7.87 in (41.3 x 146 x 195 mm)
		Weight	2.64 lb (1.2 kg)
4 port Embedded SATA controller	**SATA Protocol**	SATA 2, 3Gb/s	
	SATA Ports	4 internal	
	Port transfer rate	1.5 Gb/s total	
	Maximum Capacity	up to 2 TB (4 x 500GB non hot plug SATA HDD)	
	RAID Levels Supported	RAID 1+0 (Striping & Mirroring) RAID 1 (Mirroring) RAID 0 (Striping) RAID 5 (Striping with parity)	
	Logical RAID Volumes Supported	NOTE: On SATA models with embedded RAID, setup instructions are located in User Guide, CTO RAID is set-up not available. HP ProLiant 100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00368941/c00368941.pdf?jumpid=reg_R1002_USEN	
HP 8 Internal Port SAS Host Bus Adapter with RAID (SAS Model only)	**Dimensions** (excluding bracket)	6.6 x 2.5 x 0.6 in (16.8 x 6.4 x 1.6 cm)	
	Disk Drive and Enclosure Protocol Support	3 Gbps SAS (Serial Attached SCSI) 1.5 Gbps SATA (Serial Advanced Technology Attachment)	
	Architecture	64-bit	
	SAS Connectors	2 internal SFF8484 x4 Wide SAS Connectors 12 Gbps per x4 Wide SAS Port (4 x 3 Gbps)	
	Data Transfer Method	64-bit wide, PCI-X 133 MHz (1 GB/s maximum bandwidth)	
	PCI Bus Speed	PCI-X-133 and 3.3 volt PCI compatibility only	
	PCI	PCI-X and 3.3 volt PCI compatibility only	
	Simultaneous Drive Transfer Ports	2 x4 Wide SAS Connectors	
	Port Transfer Rate	12 Gb/s per x4 Wide SAS Port (4 x 3 Gb/s)	
	Software upgradeable Firmware	Yes	
	Maximum Capacity	576GB (8 x 72GB)	

	Memory Addressing	64-bit, supporting servers memory greater than 4 GB
	Logical Drives Supported	Up to 2 Logical Volumes Up to 10 drives total in all RAID volumes Up to 2 Drives per RAID 1 Up to 8 Drives per RAID 0
	RAID Support	RAID 1 (Mirroring) RAID 0 (Striping)
	Upgradeable Firmware	4-MB flashable ROM
	Disk Drive and Enclosure Protocol Support	3 Gbps SAS and 1.5 Gbps SATA

Embedded NC105i PCIe Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	Single lane (x1), 100MHz PCI Express Reference Clock	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000Mb/s
	Connector	RJ-45 connector	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.